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# Electrical conductivity structure beneath the eastern end of the Ohara and Hijima faults,

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Yamasaki fault system (YFS) of southwest Japan is a typical left-lateral strike-slip fault system and consists of the Nagisen fault, the main part of YFS, and the Kusatani fault.The main part of YFS extends for over 80km and its general trend is N60W-S60E. The northwest part of this fault system consists of the Ohara, Hijima, Yasutomi and Kuresaka-touge faults, and the southeast part consists of the Biwako and Miki faults. The maximum magnitude of the earthquake which will occur at northwest part of YFS is estimated to be 7.7 and that at southeast part is estimated to be 7.3. (The Headquarters for Earthquake Research Promotion, 2003)

These estimation as stated above was made by the result of surveys of surface structure, trenching, and boring. However, the surface fault structure does not always reflect correctly the subsurface fault structure. Therefore, it is important to reveal the subsurface fault structure, especially, the area near the end -point of a surface fault trace is thought to be the key area.

In this paper, we report the result of Audio-frequency Magnetotelluric (AMT) survey at 11 sites along a transect across near the east end of Ohara fault. A two-dimensional resistivity model along the transect was made based on these MT responses.

We interpreted the model as follows.

1. The Ohara and Hijima faults are not connected each other to the depth of at least 2km.
2. Highly conducive zone on the surface trace of the Hijima fault which was reported by Yamaguchi et al. (2010) , is recognized in our model, too.
3. Subsurface structure of the Ohara fault may extend eastward than the eastern end-point of the surface trace of the fault, because characteristic conductivity structure which is found by Ueda (2011) along two transects across the clear segment of the Ohara fault is recognized in our model.

Keywords: conductivity structure, active fault, Magnetotelluric, Yamasaki fault